

UNIVERSITY OF TORONTO

REPORT OF THE DEAN OF THE FACULTY OF MEDICINE

SESSION 1932-1933

THE UNIVERSITY OF TORONTO PRESS

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FACULTY OF MEDICINE

Toronto, June 30th, 1933.

To the Graduates in Medicine of the University of Toronto:

The Annual Report of the Dean of the Faculty of Medicine is sent to you with the cordial greetings and best wishes of the Faculty of Medicine.

*J. G. FitzGerald, M.D.,
Dean.*

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REPORT OF THE DEAN OF THE FACULTY OF MEDICINE, SESSION 1932-1933

The present session has been highly satisfactory from the viewpoint of scientific activity and productive research. It has also been characterized by well-balanced team work on the part of all departments of the Faculty of Medicine.

There has been constant endeavour to provide suitable conditions throughout the Faculty for original work by members of all departments, graduate students and other suitably qualified persons. At no time in the history of this Faculty has there been greater interest in productive scholarship than at present.

Furthermore, an open-minded and objective attitude has been much in evidence in the deliberations of the various committees concerned with enquiries into and studies of curricular matters. There has been a determination to spare no effort to provide teaching of a quality which leaves little room for criticism.

There has been, however, no evidence of satisfaction with things as they are either in respect of the length of the present course in medicine, the time available for instruction in the various subjects; the coordination in teaching or even of the content of all courses. To repeat, is the present curriculum of medical study satisfactory from the viewpoint of length of time involved; from the viewpoint of content and emphasis and from the viewpoint of the end product? These are questions that certainly are neither new nor novel but they are as pressing and urgent now as ever they have been in the past. Serious and sustained attention is being given to their solution by the Council of this Faculty.

Reference must now be made to the notable increase in registration of students in the first year. No less than one

hundred and sixty-seven were enrolled. The highest figure in a decade. Unfortunately, too, this large and almost unwieldy number included nineteen students repeating the work of the first year. This serious overloading of a large class with such a high percentage of students who have already manifested unsuitability for the medical course, has evoked grave concern among the Faculty. Constant reference is made to the waste involved in such a procedure. The economic loss is suffered by the state, by the parents of unsuitable students (constant "repeaters"), and the students themselves.

Then again the absolute lack of any plan, in this and other countries, to adjust supply of and demand for, medical graduates is worthy of serious consideration. Why should universities in this province continue, at great expense, to train more physicians than are currently needed? There seems at present to be a world-wide oversupply and overproduction of physicians and obviously the remedy for such a state of affairs calls not for hasty and ill-considered action, but for careful, thorough and coordinated investigation here and elsewhere.

Among a number of interesting inter-departmental developments during the year one of the most significant was the organization of the University of Toronto Physiological Society. Professor Best has made reference to it in the report of his department. No other "medical" science can claim a greater catholicity of interest and appeal than physiology and this Toronto development is further proof if such were needed. Professor Henderson has for many years past given devoted and unselfish service to the exceedingly important matter of adequate library service and facilities for this Faculty. After the provision of trained investigators and reasonable equipment, journals, monographs and sets of periodicals are absolutely essential for progress in this as in all other modern medical schools. With declining appropriations, increasingly expensive subscriptions for certain foreign journals and expanding interest in current literature, the chairman of the Library Committee has had no easy task. Warm and appreciative acknowledgement is here made of this most valuable contribution to faculty welfare. A perusal of reports of the

heads of the various departments reveals clearly great interest in research as well as a suitable appreciation of the importance of providing first-class instruction in all the many and varied courses of study.

The sixth Donald C. Balfour lecture in surgery was delivered on Lister Day, April 5, by Doctor Alexander Primrose, professor emeritus in clinical surgery and until recently dean of this Faculty. In an exceedingly interesting manner the theme of the address, "The Interrelationship of Anatomy and Surgery" was developed. With much wit and charm, the evolution and progress in those sciences was sketched by a lecturer already famed for the skill with which he presents his subject matter. Seldom if ever has Doctor Primrose been heard to better advantage. A large and appreciative audience was in attendance.

The Charles Mickle Fellowship "awarded annually to that member of the medical profession who is considered by the Council of the Faculty of Medicine to have done most during the preceding ten years to advance sound knowledge of a practical kind in medical art or science", was this year awarded by the senate to Sir Thomas Lewis, C.B.E., M.D., F.R.C.P., D.Sc., F.R.S., for his work on the physiology of the peripheral circulation. The recipient has been invited to deliver a lecture during the next academic session.

Numerous distinctions have, during the year, come to various members of the Faculty. Doctor Herbert A. Bruce, emeritus professor in clinical surgery, has received the high honour of being appointed Lieutenant-Governor of Ontario. This is the first occasion in the history of the province in which a member of the medical profession has been called to this important office. The Faculty of Medicine extends hearty congratulations and best wishes to his Honour, as his Majesty's representative in the Province of Ontario.

Doctor F. N. G. Starr, retiring professor in clinical surgery, has served with distinction as President of the Royal College of Physicians and Surgeons of Canada during the present term of office. Doctor Starr has long and faithfully discharged his duties as a member of this Faculty. The University is under

a debt of gratitude to him for service rendered, first in the department of anatomy and later in surgery. This obligation is acknowledged with gratitude. Doctor Starr's colleagues in this Faculty unite in tendering affectionate homage and most cordial good wishes.

Doctor H. A. Beatty retires from the department of surgery at the close of this academic session. The University warmly appreciates the services he has rendered for many years. His colleagues in the Faculty of Medicine join in this expression of appreciation of his co-operation at all times, and convey to him their best wishes for the future.

With the retirement of Professor K. C. McIlwraith from the department of obstetrics and gynaecology, there is concluded a long period of splendid service to the University. Doctor McIlwraith has for many years devoted himself to clinical teaching in this Faculty and has earned the gratitude of a host of students. His activities are acknowledged with grateful thanks and sincere appreciation.

Doctor Primrose, as President of the Canadian Medical Association, has during the year rendered fine service to the profession of this country and through them to the Dominion at large. The Dean of the Faculty has for the year 1932 served as one of the three vice-presidents of the Health Committee of the League of Nations. Professor Henderson and Professor Best were accorded distinction in election to honorary membership in foreign scientific societies, membership in which is accorded to persons who have made notable contributions to knowledge in their special fields. Professor Klotz has been made a member of the National Research Council of Canada, in which capacity he will have still further opportunity for service. Professor Klotz has also continued to perform highly important duties in a consultant capacity to the Rockefeller Foundation in their world-wide investigations into yellow fever.

Post-graduate activities of an extra-mural character have not been neglected during the year. Extension lectures under the aegis of the Canadian Medical Association to the number of fifty-six were given by seven members of the staff. Further-

more, under the auspices of the Ontario Medical Association, one hundred and twelve addresses were presented in various local centres by sixty-five members of this Faculty.

During the year two former members of the University in the persons of Doctor James Brebner and Mr. J. F. Van Every passed away. Doctor Brebner, as Registrar, was well known to a host of students of other days and he will long be held in affectionate memory. The death of Mr. Van Every is also deeply regretted and his services are gratefully acknowledged. Mr. H. W. Mickle, K.C., a son of Charles and Ellen Mickle, in whose memory the fellowships bearing their names were established in this University, also died during the year. A loyal friend, his passing is deeply regretted.

In the retirement of Professor J. C. McLennan from the position of head of the department of physics and directorship of the laboratories (now the McLennan Laboratories), the University in general and this Faculty especially lost an enthusiastic member and loyal supporter. As well as being an investigator of great distinction, Professor McLennan was also a splendid teacher and his withdrawal from active work here is greatly regretted. Recognition of his services to this Faculty is tendered with thanks and appreciation. In the resignation of Professor H. D. Kay, the University suffered a serious loss. Professor Kay, an outstanding investigator and teacher, left to accept the post of Director of the National Institute of Dairy Research, Reading.

The following appointments and promotions were made in the Faculty of Medicine by the Board of Governors during 1932-33:—

Professor E. F. Burton—to be Head of the Department of Physics and Director of the McLennan Laboratories.

Associate Professor D. T. Fraser—to be Professor of Hygiene and Preventive Medicine.

Associate Professor L. Gilchrist—to be Professor of Physics.

Promotions from Assistant to Associate Professorships—P. J. Moloney in Hygiene and Preventive Medicine in the Subdepartment of Chemistry in relation to Hygiene; A. M. Wynne in Biochemistry.

Promotions to Assistant Professorships—In Anatomy, Doctor A. W. Ham; in the Banting and Best Department of Medical Research, Doctor D. A. Irwin; in Physics, Mr. H. J. C. Ireton; in Psychiatry, Doctor E. P. Lewis.

Doctor G. F. Marrian has been appointed Associate Professor in Biochemistry. He comes to this position from the Institute of Physiology (Department of Biochemistry) in University Hospital Medical School in the University of London. Professor Marrian is a distinguished investigator in the field of the endocrine glands, on the side of their chemical nature. He has made important contributions to knowledge of the subject and he is warmly welcomed as a new member of this Faculty.

The reports of heads of various departments, of the Medical Art Service; notes from the Assistant Dean's office; details of registration; reports of the Medical Society, of the Medical Athletic Association, and of the Medical Women's Undergraduate Association will be found hereafter,

J. G. FITZGERALD, M.D.,
Dean.

NOTES FROM THE ASSISTANT DEAN'S OFFICE

MEDALS, PRIZES, SCHOLARSHIPS AND FELLOWSHIPS

Awarded by the Senate of the University,
JUNE, 1933

SIXTH YEAR

Gold Medal	W. J. Hendry, B.A.
Silver Medal	I. C. Sherman
Silver Medal	G. E. Hobbs, B.A.
The Ellen Mickle Fellowship	W. J. Hendry, B.A.
The Chappell Prize in Clinical Surgery	J. R. F. Mills
The David Dunlap Scholarship	W. W. Simpson, Ph.D.
The Ontario Medical Association Prize in Preventive Medicine	D. Telford, B.A.

UNDERGRADUATE

The David Dunlap Scholarships, Fifth Year	Miss J. C. Gray, B.A.
Third Year	W. A. Scott
The Baptie Scholarship	K. J. R. Wightman
The James H. Richardson Fellowship in Anatomy	H. C. Elliott, B.A.

GRADUATE

The George Brown Memorial Scholarship in Medical Science	J. A. Dauphinee, Ph.D., M.D.
The Starr Gold Medal	C. B. Weld, M.A., M.D.
The Alexander McPhedran Research Fellowship in Clinical Medicine	H. E. Rykert, M.D.
The J. J. Mackenzie Fellowship in Pathology and Bacteriology	J. R. E. Morgan, M.D.
The Reeve Prize	G. W. McGregor, M.B.
The George Armstrong Peters Prize	W. S. Keith, B.A., M.D.
The Lister Prize in Surgery	D. R. Mitchell, B.A., M.D.

OTHER AWARDS

No. 4 Canadian General Hospital Scholarships	Miss J. C. Gray, B.A.
	P. B. Hamilton, B.A.
	H. F. Saunders
The John McCrae Memorial Scholarship	W. L. M. King

REGISTRATION OF STUDENTS IN THE FACULTY OF MEDICINE

SESSION 1933-1934

	Men	Women	Total
First Year.....	125	14	139
Second Year.....	146	9	155
Third Year.....	135	11	146
Fourth Year.....	132	7	139
Fifth Year.....	102	10	112
Sixth Year.....	96	11	107
D.P.H.....	12	1	13
B.Sc. (Med.).....	5	1	6
D. R.....	1	..	1
Post Graduate.....	6	1	7
	760	65	825

DEPARTMENT OF ANATOMY

(Under the direction of Professor J. C. B. Grant)

There were working in the Department of Anatomy during the session 1932-33:—

Medical Students:

Second Year..... 129

Third Year..... 125

Biology and Medicine:

Third Year..... 26 (with second
year medicine)

Fourth Year..... 17 (with third
year medicine)

Honour Psychology Students:

Third Year..... 8 (Neurology
with third
year medicine)

Dental Students:

Second Year..... 42

Physiology and Biochemistry.

Third Year	2 (Histology)
Post Graduate Students	2 (Histology)
	3 (Gross Anatomy— occasionals)
	10 (Night class in Anatomy for House Surgeons)
	1 (Neurology)

Total 365

Of these a number elected anatomical subjects as options,
as follows:—

Second Year—Cytology	4 (Dr. Piersol)
Third Year—Anthropology	8 (Dr. Cates in conjunction with Professor McIlwraith)

Fourth Year—Special Gross Ana-
tomy 12 (Dr. Watt)

Fifth Year—Special Senses 4 (Dr. Linell)

Courses in Elementary Anatomy were given to 19 students
of the Department of University Extension, as follows:—

Physiotherapy, Second Year	6
Graduate Nurses (Hospital Admin- istration)	13

A course of six lectures was given by Dr. Linell to fourteen
optometrists.

The various lectures were duly delivered and practical
classes conducted as prescribed in the calendar.

Most students in the junior years worked, or appeared to
work, hard and with interest.

A practical examination was held for the second year
students on completion of the dissection of each of the four
parts of the body,—upper limb, abdomen, lower limb, and

thorax; and test papers were set on the first three of these. The third year students sat for two practical examinations and one written examination during the session.

The department is placing increasing emphasis on "Anatomy as related to the surface of the body" and is devoting more time to the practical study of this aspect of the subject. The purpose is not to teach "Surface Anatomy" in the usual sense as an isolated subject and as a task, but to encourage the student to rely on the knowledge he has gained of the dissected part and to relate it to the surface and to develop thereby what may be called an X-ray point of view. To this end mimeographed sheets of the exercises the students are required to practice on one another were prepared and placed in the hands of the students.

As an innovation, weekly classes on advanced anatomy were conducted by the head of the department for those members of the third year who had distinguished themselves while in the second year.

The museum makes steady progress. To it a large number of useful dissections and specimens has been added. Each of these is suitably illustrated by sketch or key executed by the prosector, E. M. Davidson.

Increasing use is being made by the students both of the library and of the museum.

Each student in the histology class now has the use of a set of slides specially prepared for him. This is in lieu of the somewhat imperfect set he formerly prepared for himself.

Dr. A. W. Ham joined the staff as Assistant Professor of Anatomy (in charge of Histology), filling a vacancy created by the transference of Dr. Linell to the Chair of Neuropathology. Dr. Ham graduated M.B. at this University in 1926, worked in the Department of Pathology under Dr. Klotz; then under Dr. Cowdry, and latterly under Dr. W. D. Collier at the University of St. Louis, where he was instructor in pathology. His experience has been gained largely in the realms of pathology and cytology. To his subject he brings enthusiasm and activity.

Dr. Linell has kindly and acceptably agreed to continue

to give the lectures on the anatomy of the nervous system; and to supervise the practical work of this class.

Mr. Harry LeMasurier has become full-time technical assistant (in special research) in place of Dr. Mary Tom, who has moved to the Department of Neuropathology. He has been kept very busy giving assistance to members of the staff in their problems.

BANTING AND BEST DEPARTMENT OF MEDICAL RESEARCH

(Under the direction of Professor F. G. Banting)

Dr. F. G. Banting and Miss S. Gairns continued the investigation of chickens immune to Rous sarcoma.

Dr. M. J. Thompson has continued the investigation of the thyroid glands of rats on diets containing varying ratios of calcium and iodine.

Dr. G. H. Ettinger, of Queen's University, worked in this laboratory during the summer of 1932. He studied the effects of low voltage shocks on experimental animals.

Mr. G. E. Hall and Dr. Ettinger made a physiological study of pulmonary emboli produced in dogs.

Mr. H. J. Perkin elaborated a method for the determination of iodine in small amounts of blood. With Dr. H. R. Inksater, he applied the method to an investigation of iodine feeding in experimental animals, and to a study of the blood iodine content in thyroid patients.

Dr. D. A. Irwin continued the study of thorium dioxide in experimental animals. Dr. Irwin and Dr. W. H. Dickson (Department of Radiology) have investigated the possibility of dyes as an adjunct to the radiation therapy of neoplasms.

Dr. B. R. Brown has investigated the effect of denervation of lung in experimental animals.

Dr. W. R. Franks and Miss M. Shaw carried out experiments on the effect in tumour-bearing mice of the combination of radiation and lactate inoculation.

Dr. E. J. King and Miss M. Dolan made a study of the formation of lysolecithin under the action of snake venom on the lecithin of egg yolks. The enzymic hydrolysis of lyso-

lecithin by the enzymes of intestinal mucosa and bone was studied and a comparison made of its behaviour on enzymic treatment with that of lecithin or kephalin.

Determinations of plasma phosphatase have been done by Miss Dolan for the Sick Children's Hospital on cases of rickets and craniotabes. Dr. King synthesized a sample of phenyl-phosphate and found it to be superior to glycerophosphate when used as a substrate for plasma phosphatase.

Dr. J. J. Rae has successfully used the enzymic method in separating pure alpha glycerophosphate from small amounts of the contaminating beta isomer, and has demonstrated the usefulness of phosphatase in settling the identity and the relative amounts of the isomers in mixtures of natural or artificial glycerophosphates. The results were presented in his thesis for the Ph.D. degree.

Mr. E. L. Outhouse completed his study of the phosphoric esters occurring in avian muscle and extended the investigation to malignant tissue. His results were embodied in a thesis for the degree of M.A.

Miss H. Tait has investigated the rate of oxidation of phosphatides, neutral fats and unsaturated fatty acids by the glutathione-orthocresol-indophenol system.

Dr. C. R. K. Johnston, in collaboration with Dr. King and Dr. Ham (Department of Anatomy), made a study of the effect of irradiated ergosterol on the calcium level in the cerebrospinal fluid and the fractions of calcium in serum.

During the summer of 1932, Mr. H. Hull investigated the effect of massive doses of vitamin D in causing demineralization of the skeleton and mobilization of calcium in the serum.

Professor C. C. Lucas of Brandon College worked in this laboratory during the summer of 1932, under the auspices of the James Page Rutherford Fellowship. He investigated the presence of a substance in urine giving the nitroprusside reaction. He succeeded in isolating this substance in a crystalline form.

The problem of silicosis, which has been under investigation in this department for the past six years, was greatly stimulated by a suggestion from Dr. D. Robson, of the

McIntyre-Porcupine Mine. In addition to this, the Ontario Mining Association offered support and co-operation in a large scale investigation of many aspects of the problem.

Dr. G. C. Cameron and Miss J. Lang completed the investigation of the tissues of rabbits exposed to silica dust.

Dr. E. J. King has carried on experiments on the metabolism of silica. In collaboration with Dr. C. B. Ross of the Muskoka Hospital for Consumptives, a study was made of the presence of silica in the urine, sputum and blood of tuberculous patients who had a history of exposure to silica.

Dr. D. A. Irwin has studied the mode of entrance of silica particles into the lung and the changes produced in the tissue by the presence of these particles. He has correlated the pulmonary lesions with the nodules produced by subcutaneous injections of silica particles. Dr. Irwin is working out a method for the differentiation of silicotic and tuberculous nodules by combining micro incineration and chemical extraction.

Dr. W. R. Franks conceived the idea of preventing silicosis by the cleaning of mine air by the application of the Cottrell process. With the assistance of the research laboratories of the Hydro-Electric Commission of Ontario, he worked out the electrical requirements of a small portable mine unit, which is in the course of construction.

The department has had the continued interest and co-operation of Professor H. E. T. Haultain of the Department of Mining Engineering, in the problem of silicosis.

The Department of Medical Research desires to express its thanks and appreciation for the co-operation and help received from:

Department of Radiology
Department of Surgery
Department of Pathology
Department of Pharmacology
Department of Physiology
Ontario Agricultural College, Guelph
The Ontario Mining Association
The Hydro-Electric Power Commission of Ontario.

DEPARTMENT OF BIOCHEMISTRY

(Under the direction of Professor H. Wasteneys)

The department suffered a severe loss during the year in the resignation of Professor H. D. Kay, who was appointed to the directorship of the National Institute of Dairy Research in England. Professor Kay, during the three years for which he was our colleague, was an indefatigable research worker and a stimulating teacher. His willing cooperation in the work of this department as well as with workers in other departments was immensely appreciated, and his loss is felt by other departments no less than by that of biochemistry. Dr. Kay left for England during the Christmas vacation, since when his teaching duties have been well performed by Professor A. M. Wynne and Mr. George McVicar, who have willingly added this to their normal duties. Dr. G. F. Marrian of University College, London, has been appointed to replace Professor Kay on the staff and will take up his duties in July.

Other changes in the staff during the year involved only junior appointments. Mr. W. W. Johnston resigned his fellowship in order to complete a research undertaken at Halifax during the summer, and Mr. V. Ignatieff was appointed in his place. Mr. R. C. French was also appointed a part-time fellow.

Thirty-three graduate students were in attendance in the department during term. Six of these were graduated at Convocation this year with biochemistry as a major subject, four as Ph.D. and two as M.A. Dr. Jukes, who is one of the recently graduated Ph.D.'s, has held an Ontario Research Foundation fellowship for the past three years. He has been awarded a U.S.A. National Research Council fellowship in medicine and is leaving in July for the University of California. Mr. W. R. Graham, another recent graduate, left in June to join Dr. Kay on the staff of the National Institute for Dairy Research in Reading. Both these gentlemen are graduates of the Ontario Agricultural College.

Twelve graduate students have engaged in research under

the direction of members of the staff. An account of these researches has been given to the President.

The total number of students registered in the department during the 1932-33 session was 371. This number is made up of 127 medical students, 42 students in the biological and medical sciences course, 9 from chemistry, 4 in the physiology and biochemistry course, 4 from biology, 106 from household science and household economics, 40 from dentistry, and 33 graduate students. Six students from other departments took the course in zymology.

All the available accommodation designed for undergraduate students was utilized during term, and additional accommodation had to be extemporised in the seminar room for nine students. Forty-three students from the departments of Household Science and Household Economics also received instruction in biochemistry under their own instructors in the department's laboratories. These, and the students from the Faculty of Dentistry, were accommodated with alternate lockers in the medical students' laboratories, and, while this was accomplished without any inconvenience, we have, I fear, reached the limit of our available laboratory space.

DEPARTMENT OF HISTORY OF MEDICINE

(Under the direction of Professor J. H. Elliott)

The course of lectures laid down in the curriculum of last year was given. These were illustrated by lantern slides and by exhibits of books recording important contributions to the progress of medicine.

Invitations were accepted to give lectures outside the University as follows:—

A. June 23rd, 1932, Canadian Medical Association—
“Early Army Surgeons of York”.

B. January 11th, 1933, Brantford General Hospital Annual Staff Meeting—“The Antiquity of Disease”.

C. February 28th, 1933, Toc H., 514 Huron Street—
“History of Medicine”.

D. March 6th, 1933, Ann Arbor—"Bright and Abdominal Tumors".

E. March 30th, 1933, Mt. Sinai Hospital Clinical Society—"The Antiquity of Disease".

F. April 7, 1933, Guelph Branch U. of T. Alumni Association—"Progress in Medicine".

DEPARTMENT OF HYGIENE AND PREVENTIVE MEDICINE

(Under the direction of Professor J. G. FitzGerald)

The enrolment of graduate students in the course leading to the diploma in public health for the session 1932-33 numbered twelve. They came from the provinces of British Columbia, Alberta, Ontario, Quebec, and New Brunswick. The fact that medical graduates from many parts of Canada pursue further studies in this University should in the years to come have an important influence on the development of professional and technical solidarity in this field throughout the country.

No less than sixty-five of these students have passed one academic session in this and in the other departments of the School of Hygiene in the last six years. With the completion of the northerly extension of the Hygiene Building in the autumn of 1932, greatly increased facilities for research and teaching have become available. Further details of interest in reference thereto may be found in the report of the Director of the School of Hygiene.

As previously, courses of instruction in bacteriology, serology and medical protozoology were given in this department not only to students in the course leading to the diploma in public health, but also to other suitably qualified graduate students. Other courses in the D.P.H. curriculum were offered by the other departments in the School of Hygiene.

As a result of increased Rockefeller Foundation endowment, it has been possible to set up a new Sub-department of Chemistry in relation to hygiene under the direction of Professor P. J. Moloney. Courses of instruction formerly given in the Department of Hygiene and Preventive Medicine by

Professor Moloney have been transferred to this new sub-department. This has made possible an increase in staff with consequent enlarged opportunity for research and teaching.

There were five graduate students in this and other departments of the School of Hygiene proceeding to the degree of doctor of philosophy and two enrolled as candidates for the degree of master of arts. There were in addition eight occasional students, chiefly graduates in arts in honour biology.

Students in the fifth year in medicine received the usual course of didactic lectures and the series of thirty exercises constituting the so-called field course. This practical work was provided in May and June and in September as in previous years.

Laboratory and lecture courses were given to students registered in the courses conducted under the Department of Public Health Nursing. Lecture courses were provided also for students in the Faculty of Household Science and in the Department of Social Science.

This department wishes to again express deep appreciation of the splendid assistance and cooperation of the Department of Health, Ontario, and the Department of Public Health, Toronto. Similar acknowledgement is made to those many persons and organizations who most generously have aided in the conduct of field exercises carried on extra-murally. The facilities thus made available to graduates and undergraduates in this University have been of very great value.

The complete registration in the department for the session was as follows:—

Graduates.....	27
Undergraduates.....	341
Nurses in diploma courses.....	46

Elsewhere, in the report of the Director of the Connaught Laboratories, an account of research work carried on by members of the department is referred to briefly.

DEPARTMENT OF MEDICINE

(Under the direction of Professor Duncan Graham)

In the Department of Medicine no material changes have occurred in the general plan of organization for teaching and hospital work. In the fourth year the course of lectures, demonstrations and bedside clinics has been revised. Last session it was possible to cover in the third trimester much of the work given in the first trimester of the fifth year. By this change the course of instruction in physical diagnosis has been improved and the students given an earlier introduction to the study of disease, and greater individual experience in the examination of patients. The course of lectures and demonstrations to the final year on the value and indications for the use of methods of physiotherapy in the treatment of disease has been extended.

Dr. Norman Wrong, who spent the past year working in London with Dr. Barber, dermatologist to Guy's Hospital, has joined the staff of the department as a full-time junior demonstrator. This year Dr. H. E. Rykert is the holder of the Alexander McPhedran Research Fellowship in Clinical Medicine. Dr. E. F. Brooks has been appointed a part-time junior demonstrator and has become a member of the attending staff of St. Michael's Hospital.

During the past year members of the staff have been most active in the investigation of different clinical problems. Reference will be made to a few of the problems studied.

For the past few years Dr. Farquharson has been applying Bauer's galactose liver function test in cases of liver and biliary tract disease. In the past year, Dr. G. A. Grant, using his own method for the estimation of blood galactose, has estimated the blood galactose curves on the cases of liver and biliary tract disease investigated in the clinic. The comparative value of these two tests has now been determined.

Dr. Hyland and Dr. Farquharson are making a careful clinical and pathological study of the neurological changes in Addison's (pernicious) anaemia.

Dr. Rykert is continuing our electrocardiographic observa-

tions on patients with diabetes mellitus and carefully observing the periphoreal arteries in diabetic patients under treatment. He has made some interesting electrocardiographic observations in cases of hypertension, which will be published shortly.

Dr. Campbell and Dr. Fletcher are continuing their investigation of the effects of different diets in the treatment of patients with diabetes mellitus.

Dr. Wrong has been studying the pathological changes occurring in the skin in certain types of skin disease.

Dr. Warner is continuing his work on the production of bronchiectasis in animals.

A complete report of Dr. Maltby's studies on the digestion of beef protein in the human stomach will be published shortly. This report records some important observations on the digestion of protein in normal individuals with achlorhydria and in patients suffering from Addison's (pernicious) anaemia.

SUB-DEPARTMENT OF PAEDIATRICS

During the past year material progress has been made in many of the problems under investigation in this department. Probably one of the most important of these has been the results obtained in the study of the production and prevention of dental caries (decay). This work has been conducted by this department with the co-operation of members of the dental profession. Dental caries has been produced and prevented at will in animals, and by increasing the phosphorus and vitamin D in the diet of children the occurrence of this condition has been definitely reduced.

The prevention of dental caries by dietary means is of very great interest not only to the dental profession, but also to the medical profession, because many of the ills to which the human race is heir have their origin in faulty teeth. While the problem of dental decay is far from being solved, still it is felt that the information obtained constitutes a distinct advance, and should be of definite practical value in improving the diets of not only children but also adults.

A number of interesting and practical investigations on the value of some of the common articles of diet have been

undertaken. The importance of various elements in the diet for the development of optimal growth and resistance against infection has been investigated. Studies are being made of a number of the diseases encountered in the Hospital for Sick Children in an attempt to discover not only better means of treatment, but means for the prevention of those conditions.

The work of the department during the past year has been presented before many medical associations, including the British Medical Association, the Canadian Medical Association, Ontario Medical Association, American College of Physicians, American Pediatric Society, New York State Medical Society, Canadian Society for the Study of Diseases of Children, and the Interstate Postgraduate Association.

DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

(Under the direction of Professor W. B. Hendry)

The academic work of the Department has been carried out according to the curriculum.

In co-operation with the Department of Anatomy, the anthropological study commenced three years ago by Dr. Goodwin is being carried on and a great deal of valuable material has been accumulated which will shortly be published. In recognition of the work done in this connection, Dr. Goodwin has been elected a Fellow of the Royal Anthropological Institute.

In co-operation with the Departments of Genito-Urinary Surgery and Radiology, Dr. Henderson has been investigating the urinary changes which take place during pregnancy. Further study of these changes is necessary and is still being made with the expectation that during the next year it will be possible to appraise the results of this investigation.

In co-operation with the Department of Radiology, Dr. Cosbie has been studying the significance of thorotrast as an aid to diagnosis in obstetrical practice.

Dr. Henderson has been carrying out an investigation into the effect of Kolene on the progress of labour, the results of which investigation will be published shortly.

Further work in this Department is being done in connection with an investigation into the anaemias of pregnancy, and concerning the effect of vitamins on pregnant women.

Dr. Mann has made, during the past year, some advances towards the perfection of a new obstetrical forceps.

I regret to announce the retirement of Professor K. C. McIlwraith, who has reached the statutory age limit for service both in the hospital and in the University.

DEPARTMENT OF OPHTHALMOLOGY

(Under the direction of Professor W. H. Lowry)

The Department is much gratified in the enthusiasm and interest taken in examination of the fundi on the wards in the hospital. The house surgeons are becoming quite expert in the recognition of diseased conditions. Over three hundred of these patients have been referred for consultation and this represents only a portion of the number of cases seen. This clinical material has been made use of to demonstrate diseased conditions to the final year students and these students have passed very creditable examinations on eye work in the examinations just concluded.

Dr. Macrae has been doing some work in the Banting Institute which is proving of interest. It was found that rats on a low iodine diet for a period of three or more months developed exophthalmos along with typical goiterous thyroid glands. The measurement of this exophthalmos was then attempted along with the examination of the orbital contents for possible histological changes. Experiments are being continued and we hope to report on the work done shortly. Dr. Macrae is also making detailed study of ophthalmological findings in series of brain tumour cases admitted to the Department of Neurological Surgery at the General Hospital.

During the year research work has been carried out with a view to producing a stronger electro-magnet for ocular work. Dr. A. E. MacDonald is trying to cut down the size of the magnet without sacrificing the force required to extract an intraocular steel-foreign body. He hopes that funds will be

made available so that this work may be carried out to a satisfactory completion. He thinks that a grant of \$50.00 would be sufficient for this purpose.

During the year the following papers were presented from this department:—

1. At the International Congress of Ophthalmology, "Absolute Stereoscopy; Stereoscopic Inversion; and Micromacropsia Phenomena".
2. In the Archives of Ophthalmology, "Condensed Vision Chart".
3. At the American Academy of Ophthalmology and Otolaryngology, "Haemorrhages about the Eye".
4. At the Academy of Medicine, Toronto, "Early Eye Signs of Brain Tumour", in a series of thirty-seven verified brain tumour cases.

At the present time, thanks to a small grant through Dr. Banting's Department, Dr. MacDonald, with Dr. D. A. Irwin, is carrying on some investigations on intraocular injection of thoriumdioxide. The eye tolerates this material very well and their early results seem to indicate a new lymphatic flow from the region of the canal of Schlemm to the suprachoroidal space, passing through the outer part of the ciliary body.

DEPARTMENT OF OTO-LARYNGOLOGY

(Under the direction of Professor P. G. Goldsmith)

It should again be noted that the large size of the graduating year makes the teaching of oto-laryngology very difficult. This subject is one where individual instruction alone can properly impart certain parts of the work. The time allotted to teaching is not sufficient, having regard to the important part this subject occupies, both in preventive medicine, and the general ailments of the public at large. Every effort is made, therefore, to make the students familiar with the ordinary ailments in a general practice and in no way is specialism encouraged or taught.

The clinical work in the Outdoor Patient's Department of the Toronto General Hospital has increased very greatly. I

would be glad if we could give the students greater opportunity for examination of simple cases.

Students are only at rare intervals brought into the Ear and Throat wards, and it is not considered essential to have them witness the many operative procedures there employed.

The hospital work has been very heavy. Though there are only 44 beds (including eye), the Oto-Laryngological division admitted 1,254 patients, and performed 1,048 operations, many of the latter were transferred from other wards and are not included in the 1,254 admissions.

The close association between Oto-Laryngology and General Medicine is seen in the number of consultations asked by the Departments of Medicine and Surgery. There were during the past year 989 written opinions, given mostly to the Department of Medicine. In the Out-patients' Department there were 7,859 attendances, in addition to the increasing number of conferences with the out-door medical cases. A weekly clinic is given to a small percentage of the final year at the Hospital for Sick Children. I should like to see this increased but the difficulty is, I know, very great.

This Department carries out all the pathological work in its field. This is undertaken by Dr. McGregor with the very generous oversight and co-operation of the Department of Pathology. There were 130 special examinations of tissue made during the past year.

In the work of Neurological Surgery our department is being constantly engaged in co-operating in the study of cases where the examination of the internal ear is an important feature.

DEPARTMENT OF PATHOLOGY AND BACTERIOLOGY

(Under the direction of Professor Oskar Klotz)

The activity of the Department of Pathology and Bacteriology has been continued as outlined in previous reports. The teaching responsibilities of the members of the staff are given first place, and each year a stock-taking of what has been accomplished, as well as the methods by which the best results

are attained, is given a thorough analysis. The classes in gross pathology which are now given by both the Department of Medicine and of Surgery, have helped materially in impressing upon the student of the fifth year the importance of the subject in his clinical work. There is now a good continuity in the presentation of bacteriology and pathology through the third, fourth, fifth and sixth years. During the summer months, voluntary assistantships are made available to about fifteen students in the routine laboratories of pathology and bacteriology. Applications for these positions are increasing each year.

The services in the routine laboratories are being extended from year to year, and it has been possible only by the most careful organization to carry out the work without lowering the standard of efficiency. The staff in the division of surgical pathology is forced to strain every effort to keep pace with the amount of material which daily passes through its hands. The same is true of bacteriology and the autopsy division. The responsibilities in each of these divisions is great and accuracy in diagnosis is an obvious essential. In the very near future it will be necessary to arrange for added assistance on the technical staff.

The division of neuropathology has forged ahead with great strides. An abundant material comes to this group from the Department of Surgery as well as from the routine autopsies. Assistance is sought from the members of this division by various clinicians and their departments, and we find that an excellent co-operation has been instituted between the clinical branches and the laboratories. The division of neuropathology has now available an excellent collection of tumours of brain for post-graduate studies. All of the material is filed in the gross and microscopic, and well arranged records give a complete history of the findings in each case. For those desiring advanced work in neuropathology, this material offers an unusual opportunity.

Dr. P. H. Greey, who is in charge of the diagnostic clinic in bacteriology, has given special attention to a study of actinomycosis in man. During the past year he has been able

to isolate the organism from twelve cases, a number greater than the isolations in the past ten years. Furthermore, he has been testing the agglutination method for clinical diagnosis. Very good results have been obtained by this procedure, but care must be had in the preparation of the antigen. Dr. E. J. Clifford is continuing his investigations on the bacterial flora of the intestinal tract, with particular reference to cases with metabolic derangements. Dr. R. Margarite Price is continuing her work on bovine tuberculosis in man; and Dr. M. Viola Rae is investigating the characters of a strain of streptococcus which has a predilection for the development of infarcts and abscesses in the myocardium of laboratory animals.

Dr. Oskar Klotz has been invited to lead the symposium on arteriosclerosis at the next meeting of the American Association of Pathologists and Bacteriologists, and has also been asked to present his studies on experimental arteriosclerosis before the International Association of Pathologists at Utrecht next year. Contact is still maintained by him with the work on yellow fever which is being carried on in South America and Africa. Pathological materials are sent to him from various centres for diagnosis. Brazil, Ecuador and Bolivia have had cases of this disease during the past year. Dr. Klotz has also been appointed a member of the National Research Council of Canada.

Numerous other studies have been completed by various members of the staff in pathology. Dr. J. L. Blaisdell,—Extramedullary haematopoiesis in a retroperitoneal tumour; Primary carcinoma of lung. Dr. C. R. Rapp—The influence of injection fluids on thrombosis. Dr. J. R. E. Morgan—A metastatic tumour of the tricuspid valve arising in a case of malignant teratoma of the testis. Dr. L. W. Plewes—The nature and origin of xanthomatous tissues. Dr. Eric Massig—Brown induration of lung; Congenital aneurysm of the interventricular septum. Dr. L. L. Wyse—Perforation of the gall bladder. Dr. T. H. Belt—The anatomy and physiology of the coronary circulation.

The museum has had many new specimens added to the

collection, while not a few of the older specimens and such, in which the teaching value had depreciated, have been discarded. The Christeller method of cutting thin sections of entire organs has also been introduced, thereby adding very greatly to the value and use of the museum for the purpose of instruction. Although the technique for these preparations is somewhat laborious, there is no doubt as to the added interest they give to teaching. We have had many visitors from other medical schools to this museum, and all have been highly complimentary on the quality of the collection.

DEPARTMENT OF PATHOLOGICAL CHEMISTRY

(Under the direction of Professor V. J. Harding)

The association of this department with urology in the use of urea clearance test in some surgical cases has been continued. The results show the practical value of this test. Dr. R. W. I. Urquhart has spent a considerable amount of time over this piece of work.

The help of the Department of Medicine has enabled Dr. G. A. Grant to continue his work on galactose metabolism. In association with Dr. D. Glaister, he has been able definitely to trace the appearance and disappearance of this sugar in muscle after its oral administration. The tolerance of the rat to galactose is much less than in man. In a study of hepatic disorders, the value of the new differential method of blood-sugar analysis has been shown superior to the old method of total sugar determinations in galactose tolerance tests. Dr. Grant's work has been acknowledged by the Royal Society of Canada, who granted him a fellowship for its continuation next year. Dr. Grant will study at the Lister Institute of Preventive Medicine, London, England.

Dr. D. L. Selby's work on benign glycosurias has been continued. The existence of a glycosuria during some portion of the day has been demonstrated in fifty per cent. of normal individuals. The existence of minute traces of sugar in urine during the fasting condition is, however, still open to doubt. This work is being continued.

Dr. A. R. Armstrong has been associated with Dr. Selby in some of the above work, but, independently, has contributed new knowledge on the behaviour of sugars other than in blood. It is too early to state the practical importance or otherwise of this work.

Professor T. F. Nicholson has continued his work on the use of biological reagents in sugar analysis. Methods for the use of yeast, briefly noted in last year's report, have been refined and made more adaptable to practical laboratory conditions. These new methods are being applied, with the assistance of other members of the staff, to the study of various sugar problems. Mr. R. Archibald and Mr. S. Jackson have been assisting.

DEPARTMENT OF PHARMACOLOGY

(Under the direction of Professor V. E. Henderson)

A series of staff conferences have been held throughout the year, which have proved of the greatest value to the members of the department.

Research during the year has made satisfactory progress. With Dr. Roepke, I have continued the study of the mechanism by which stimulation of a parasympathetic nerve leads to the activity of gland and muscle cells. We have shown clearly that stimulation of the chorda tympani leads to a production of acetyl choline, whether atropine prevents the external secretion or not, and that the vasodilation produced may be entirely due to the acetyl choline liberated. Stimulation of the nerves to the urinary bladder also leads to the local production of acetyl choline. A further study of the mechanism of vasodilation is in progress. These studies, with others being reported from laboratories throughout the world, must lead to a profound change in pharmacological and physiological thought. These studies have led to the preparation of two papers, and a third is in progress.

Dr. Roepke has also begun a study of the oxidation reduction potentials of several of the rarer sugars.

Mr. Welch has made real progress with his study of the

oxidation of adrenaline, and has a paper almost ready for publication.

Dr. Lucas has made a very detailed study of the movements of cilia and the effects of anaesthetics upon them. This study, now approaching completion, places our knowledge on a firm basis and may prove of considerable practical value.

Dr. W. E. Brown and Dr. J. G. Perkin, working as volunteers in this department, have completed a study of the toxicity of nitrous oxide which is also of considerable theoretic as well as practical interest.

I have also completed a book on the Pharmacology of Anaesthetics, which will, I hope, prove of very general interest and usefulness.

During the year, the Canadian Formulary and Reference Companion, of which Dr. G. H. W. Lucas and Professor R. O. Hurst were editors, with myself as honorary editor, was completed and printed for the Canadian Committee on Pharmaceutical Standards, of which I have been chairman since 1927, and Dr. Lucas, secretary, for the past three years. Most of the large amount of work required for the compilation of this book was carried out in this laboratory. I am glad to report that it has been favourably received by both the medical and pharmaceutical professions.

DEPARTMENT OF PHYSIOLOGY

(Under the direction of Professor C. H. Best)

Among the interests of the staff of a department responsible for teaching and research in one of the fundamental medical sciences should be the provision for an opportunity for the members of other departments to keep abreast of the advance of knowledge. Physiology has made such rapid strides during the last decade that considerable effort is required on the part of those who base their teaching upon physiological knowledge to keep pace with its progress. It is, of course, very discouraging to teachers of physiology if their pupils are not encouraged to apply their recently acquired knowledge of this subject. The University of Toronto

Physiological Society held twenty-one meetings during the past year, and there was always an excellent attendance from the staffs of other departments. Professor Babkin and Professor Beatty of McGill University, Professor Bronk of the University of Pennsylvania, and Professor Corner of the University of Rochester, presented very valuable communications before the Society. Papers were also contributed by members of the staffs of the Departments of Biochemistry, Pathological Chemistry, Pharmacology and Neuropathology. The remainder of the papers were presented by members of the staffs of the Departments of Physiology and Physiological Hygiene. Each of the senior students in physiology presented a paper before the Physiological Journal Club, which also held weekly meetings throughout most of the academic year. There are, therefore, two meetings each week during at least twenty-one weeks of the academic year at which physiological subjects are discussed, and to which interested members of other departments are cordially invited.

The teaching of physiology to the medical students was made somewhat difficult this year by the change in time-table which necessitated a repetition of the course in nerve-muscle physiology.

An exceptionally large number of lectures have been delivered this year by members of the staff before biological and medical societies in Canada and the United States. The head of the department has been invited to give a series of lectures in London, England, under the auspices of the University of London.

The researches on the significance of choline and fat metabolism have been carried on under the direction of the head of the department by Miss M. E. Huntsman and Mr. O. M. Solandt and several reports have been published. This field is developing in a most interesting way, and promises to yield very significant results.

Dr. E. T. Waters, in collaboration with the head of the department, has conducted a study of the phosphate changes produced by sugar injection into the blood of dogs at various intervals after ligation of the pancreatic ducts. The insulin

content of the degenerated glands has been assayed by a method which was previously found to give optimal results. Dr. Waters and Dr. D. W. G. Murray of the Department of Surgery, have continued their work on the phosphate changes in the blood of infected animals. Dr. Waters has also worked in collaboration with Dr. A. H. W. Caulfeild of the Connaught Laboratories. A study of the immunologically active carbohydrates and proteins which may be isolated from ragweed pollen is being conducted.

Investigations into certain phases of calcium metabolism were carried out by Professor N. B. Taylor in collaboration with Dr. C. B. Weld and Mr. J. F. Sykes. Special attention was directed toward the absorption and excretion of calcium and the effect of irradiated ergosterol and the parathyroid hormone upon calcium metabolism. The nature of the calcium compound responsible for the hypercalcaemia of ergosterol and parathyroid overdosage was investigated by means of transfusion methods. A preliminary report of the latter work was reported to the Royal Society of Canada in May of this year. As an appreciation of his experimental work, the faculty have awarded Dr. Weld the Starr gold medal for 1933. Dr. Weld has, as during the last year, spent only a part of his time in this department, his mornings being devoted to work upon the wards of the Hospital for Sick Children in accordance with arrangements made with the Department of Paediatrics. Experiments concerning the effect of bile upon the toxic action of irradiated ergosterol were extended this year. Mr. Sykes made this work the subject of his thesis for the M.S.A. degree. A preliminary report of this investigation was communicated by Professor Taylor to the Fourteenth International Physiological Congress at Rome last September. Dr. C. K. Harrison assisted in experiments upon intestinal obstruction. The result of these investigations indicate that distension of the bowel wall is the primary cause of death. Loss of chloride is a secondary factor. A short account of this work was communicated to the Montreal Physiological Society last April.

The irregularities which Dr. E. Fidler previously encountered in the analysis of air have been related to heating with

the platinum spiral when removing combustible gas after the use of pyrogallol. The essential nature of the change is unknown but there appears to be a cumulative influence which affects subsequent samples of air in the same apparatus. Present experience and a few records in the literature suggest that oxygen may be the source of the disturbing factor.

Dr. Ruth C. Partridge, who has carried out most of her research work this year in the Department of Physiological Hygiene, has extended her studies of nerve impulses. Her work on vagus impulses from the lungs has been published, and a study of vagus impulses passing to and from the stomach, conducted in collaboration with Dr. M. J. Wilson, is in process of publication.

In the section of General Physiology, which is under the direction of Professor Laurence Irving, the developing eggs of the speckled trout have afforded a new and useful material for investigation. The embryos in these eggs grow from single cells to active free swimming larvae in about fifty days. Miss J. F. Manery and Professor Irving have studied the change in carbon dioxide content of the eggs which indicates the development of an alkaline reserve. The study shows the growth of an essential chemical characteristic of the organism from its earliest stages. As the bicarbonate of the eggs increases, chlorides are lost, showing a change in ionic composition of the eggs which is significantly related to the exchanges in many adult cells. Mr. K. C. Fisher has investigated the influence of temperature upon the heartbeat of the embryo. A definite relation has been established which allows for characterization of the basic processes supporting the heartbeat. Observations on the relation of the heartbeat to oxygen supply have been carried out upon the embryonic hearts. Results of particular interest obtained with the collaboration of Mr. Hanes of the Ontario Research Foundation showed that the inhibiting effect of carbon monoxide on the heart can be reduced by light. Mr. Fisher is preparing an electrical device for the precise measurement of temperature in tissues such as muscle. A study of the postmortal changes in the gastric mucosa has shown that lactic acid is formed there, although

it has not been determined whether it is concerned with the secretion of gastric juice. The electrical potential of the mucosa of frogs is also being examined in the hope of further characterizing the process of gastric secretion. All these studies are directed toward the general investigation of the acid-base equilibrium in physiological processes, the problem of hydrochloric acid secretion, and an approach to the metabolism of heart muscle.

It may be mentioned here that Dr. Irving, Miss Manery, Mr. Fisher and Mr. O. M. Solandt, of the staff of the department, and Dr. D. Y. Solandt and Mr. A. L. Chute, former members, will be carrying on investigations at the Marine Biological Laboratory at Woods Hole during the summer. Their experience with different material and their association with a number of active investigators from other universities is very valuable.

DEPARTMENT OF PSYCHIATRY

(Under the direction of Professor C. B. Farrar)

The instruction programme in both the required and elective courses has been continued without essential change from last year, a written examination being held at the end of the fifth year covering the work of the preceding two years. Instruction facilities are handicapped particularly in the sixth year, in which the groups are too large and the time too short to make possible individual work by way of clinical clerkships.

Post-graduate instruction for junior physicians in the Ontario service has been continued and somewhat extended. To date fourteen physicians have been enrolled in this course. Of these, twelve have completed the work and been assigned to important posts in the various hospitals and mental health clinics.

During the year the department has been enrolled in the School of Graduate Studies for work leading to the degree of Ph.D. One graduate student is now taking this course.

Both in instruction and practical work increasing emphasis is laid upon the integration of psychiatry with the biological

and social sciences. A useful contribution in this respect has been supplied by the weekly psychiatric seminar, which was inaugurated a year ago. The seminar extends through the academic session. Various departments and outside agencies have participated and the relations of psychiatry to the following subjects have been discussed: anthropology, biology (genetics), industry, law, mental hygiene, neuropathology, nursing, occupational therapy, ophthalmology, philosophy, psychiatry, psychology, religion, sociology.

In the nursing school the three months' affiliate course has been continued and a new six months' post-graduate course for selected properly qualified nurses has been inaugurated. To date, eighty-one nurses have been enrolled in the affiliate course, and eleven in the graduate course.

Staff changes include the promotion of Dr. E. P. Lewis to the position of assistant professor of psychiatry, and the addition of Dr. C. G. Stogdill as assistant in psychiatry, with the continuation as fellows of Dr. A. J. Kilgour, Dr. R. MacLachlan Franks (psychiatry), and Dr. J. A. Hannah (neuropathology).

DEPARTMENT OF RADIOLOGY

(Under the direction of Doctor G. E. Richards)

No important changes have been made during the year in the undergraduate courses which have been continued along the lines followed in previous years. The object has been to present to the student a survey of the subject in such a manner that he may acquire a general knowledge of the field of usefulness of radiology and also its limitations in diagnosis, without too much technical detail. In therapy an attempt is made to keep up with the progress of radiotherapy (both X-rays and radium) in those branches which have become more or less established. Controversial subjects or viewpoints have, as a rule, been omitted, or if presented have been carefully qualified.

Last year reference was made to a new opaque preparation which had become available under the name "Thorotrast", by

means of which visualization of the liver and spleen was made possible. Two years of experimental work have now been completed with this preparation and a number of papers issued by Dr. W. H. Dickson and Dr. D. Irwin. The original hopes regarding it have been more than fulfilled and several newer applications developed. Interesting applications in connection with visualization of the placenta have been developed and this has now been extended to general arteriography, especially of the cerebral vessels and those of the extremities with obvious applications to such diseases as Burger's disease.

In the field of radiotherapy the chief matter of interest generally has to do with the possibilities contained in very high voltages up to one million or higher. Up to the present, this is an entirely experimental study and no one can predict what may be its future. In our own work we have been restricted to standard methods by the limitations of existing equipment and can report no progress in this respect.

No changes in staff or personnel have occurred during the year.

DEPARTMENT OF SURGERY

(Under the direction of Professor W. E. Gallie)

The year 1932-1933 has been marked by the satisfactory progress of the various plans for the improvement of the teaching of surgery that have been outlined in previous reports.

During this year the plans for the establishment of a radium institute have been brought to completion and the agreement between the Ontario Government and the Toronto General Hospital has led to the commencement of the alteration in the old Pathological Building which will provide for the Ontario Institute of Radiology, the Department of Röntgenology and the Department of Genito-urinary Surgery. The building will be completed some time this year and will at once benefit the Department of Surgery, by relieving it of the necessity of providing beds for many patients who are not surgical but who are receiving only X-ray or radium therapy. It will also provide a first-class plant and equipment for the

treatment of genito-urinary patients and make possible a great improvement in the teaching of this branch of surgery. The plans include accommodation for fifty patients in hospital and a first-class out-patient department which will be equipped with the most efficient X-ray apparatus and electrical appliances. These arrangements will greatly increase the opportunities of our students for clinical study and fill a long-felt want at the hospital. They will also allow the sub-departments of urology in the hospital and the University to keep abreast of the advances that are taking place in this type of surgery all over the world.

I am glad to report that the plan for post-graduate teaching in surgery, referred to in last year's report, has worked out satisfactorily and that the first two candidates for the degree of master of surgery, trained under the new plan, passed their final examinations with high honours. The combination of practical training in hospital with the study necessary for the examinations is bringing good results.

During the past year arrangements have been made at the General Hospital whereby fracture cases are segregated in one ward and are treated by a special group of surgeons. It is hoped that by this means some of the surgeons may become particularly interested in fractures and that it may be possible to improve the teaching of fractures to our students.

I am glad to report that the reorganization of the surgical staff at St. Michael's Hospital has resulted most favourably. During the years since the change occurred we have been able to increase gradually the number of students attending that hospital until now we shall have two full units of Sixth, Fifth and Fourth Year classes.

The Hospital for Sick Children is now provided with a complete complement of surgeons. The recent appointment of Dr. W. S. Keith, who is specially trained in neuro-surgery, rounds out the staff splendidly and provides for the adequate teaching of all branches of general surgery in that institution.

During the year the following experimental studies have been conducted by the department in the laboratories of the Experimental Research Committee:

Dr. D. W. G. Murray—The effect of infection on insulin production; The effect of heparin on thrombosis.

Dr. S. D. Gordon—The effect of infection on the thyroid gland; The rôle of the pyloric portion of the stomach in gastric secretion.

An exhaustive clinical research has been conducted by Dr. F. I. Lewis, in conjunction with Dr. Dickson of the Department of Radiology, on gastric movements and on post-operative vomiting. Two important papers on the subject are in the press.

This year has seen the establishment of three special clinics at the General Hospital, *i.e.*, one for plastic surgery under Dr. S. D. Gordon, one for rectal surgery under Dr. J. A. MacFarlane, and one for varicose veins and ulcers of the leg under Dr. R. M. Janes and Dr. J. H. Couch. Two new follow-up clinics have also been established for the study of the late results of the treatment of goitre and of the surgical diseases of the stomach. These new follow-up clinics are in addition to one previously established for the study of the results of the surgical and radiological treatment of cancer of the mouth conducted by Dr. Wookey in association with Dr. Richards of the Radiological Department.

With the end of this last session has come the retirement of Professor F. N. G. Starr from the University, of Professor W. W. Jones from the General Hospital, and of Professor H. A. Beatty from the Western Hospital and from the University. These gentlemen have given splendid service to the University and it is with the greatest regret that the Department of Surgery views their retirement.

DEPARTMENT OF THERAPEUTICS

(Under the direction of Professor R. D. Rudolph)

The work done in the department was on the whole very satisfactory. The teachers were keen in their duties and the students were regular in attendance and showed much interest in the subject. All of them administered the six anaesthetics required by the regulations, although it was only with a good deal of difficulty that the necessary number of cases was ob-

tained as so many of the anaesthetics nowadays are of the spinal and local types. A good many of the students got extra anaesthetics in various hospitals.

Dr. Arthur Smith, who was a part-time research fellow until November last, has not yet finished the research but is now working in his own time. It promises to be of great value in showing the effects of high blood pressure upon the blood picture, and seems to demonstrate that the lowering of this does not produce retention of undesirable products.

The new edition of the British Pharmacopoeia came out last November and a special list of useful drugs has been supplied to the students.

ART SERVICE

(Under the direction of Miss M. T. Wishart)

The personnel of the Art Service during the current academic year has consisted of Miss Wishart and Miss Foster.

Among the many interesting subjects illustrated in various ways, the following will serve to illustrate the scope and variety of this service:—

Wax models of Rous chicken sarcoma;

Illustrations of a technique for lobectomy;

Illustrations of histological changes seen in the livers of animals receiving choline;

Wax models of pathological lesions for the museum collection in surgical anatomy;

Wax models of a variety of skin diseases;

Illustrations of a technique for repair of a thoracic fistula.

Summary of Work of the Art Service

1. According to medium of work:—

1. Water-colour.....	9
2. Half-tone.....	19
3. Pen and ink.....	34
4. Wax moulage.....	17
5. Line.....	8
6. Sketches.....	8
Total.....	95

2. According to Departments:—

1. Medicine.....	1
2. Paediatrics.....	7
3. Surgery.....	43
4. Radiology.....	11
5. Medical Research.....	7
6. Anatomy.....	9
7. Physiological hygiene.....	8
8. Pathology.....	9

Total..... 95

3. Number of members of the faculty for whom work was done..... 19

REPORT OF THE MEDICAL SOCIETY

President.....J. W. Graham
Vice-President.....D. R. Nicol
Secretary-Treasurer.....J. F. Robinson
Assistant Secretary-Treasurer.....F. P. McInnis

The Undergraduate Medical Society of the University of Toronto has completed a most successful year. This was a result of the enthusiasm of “Wally” Graham, President of the Society, and the excellent work done by his executive and committees.

The Annual Medical At-Home was held in the banquet hall of the Royal York on February 27th. The dance was the largest University function which has ever been held in the hotel, and “Red” Nicol and his committee are to be commended. A novel scheme was introduced which has been followed by other colleges on the campus. The party was held in the form of a supper dance, the couples being seated at tables when not dancing. Romanelli’s Royal York Orchestra provided the music.

Daffydil was held in the Hart House theatre on the evenings of March 11th and 12th. This performance is becoming more finished every year. “Wes” Simpson, chairman of the committee, and his associates, devoted many long hours to its

perfection. The cup for the best performance was won by the fifth year. They presented a very subtle burlesque of Gilbert and Sullivan's "H.M.S. Pinafore". The banquet which always follows the show was a fine success.

"Bob" Kerr edited this year's Undergraduate Medical Journal. We are proud of our journal, which compares very favourably with those of sister schools. A high standard has always been maintained, and the staff spend much time and great effort in securing and editing the type of article which is both interesting and useful to students and graduates.

Open meetings were held periodically during the year at which men of prominence in the profession addressed the student body. Allan Noble secured the speakers and conducted the meetings.

The annual election of officers for the Medical Society, the Medical Athletic Society and the Year Executives was held in the Anatomy Building on February 25th. The largest vote in the history of the society was polled. Nearly 650 ballots were cast. This is a fine indication of the "medical spirit" of which we are so proud.

MEDICAL ATHLETIC ASSOCIATION

President.....L. H. Carroll
Vice-President.....J. C. McLennan
Secretary-Treasurer.....A. H. Squires

The undergraduates in the Faculty of Medicine participated as usual in the various sports with the greatest enthusiasm. The keen interest and co-operation of the students made the work of the executive relatively easy.

"Meds" entered two teams, a junior and a senior, in the following competitive sports: rugby, hockey, basketball and water polo. One team was entered in soccer, lacrosse, track, boxing, wrestling and fencing, golf, tennis, rowing, harrier, volley-ball and baseball. The turnout for these teams included about one-third of our student body.

Although we won only one championship, namely, basketball, by our junior team, yet we were runners-up in lacrosse,

indoor track, volley-ball and baseball. The other teams all gave a good account of themselves.

The new grant of the Medical Society to the M.A.A. of \$1.50 from each student instead of \$1.00 enabled us to actually send out teams all wearing the same coloured uniforms. Something new for medicals—we actually baffled our opponents!

Forty-three Medical “M’s” were granted this year. Some of these, of course, went to intercollegiate players, but the majority were won for keen interest shown in inter-faculty sport.

The women of our faculty worthily upheld the medical spirit in their sports and seemed to have a very successful year. Two medettes received their medical colours this year.

MEDICAL WOMEN’S UNDERGRADUATE ASSOCIATION

Honorary President.....	Dr. Marion Hilliard
President.....	Helen McKinley
Vice-President.....	Jessie Gray
Secretary.....	Mary Marshall
Treasurer.....	Margaret Harcourt

The M.W.U.A. purposes through social activity to bind together the interests of the women of the Faculty of Medicine. Contrasted with the pioneer days of women’s entrance into medicine, our task is easier, due to the co-operation and inspiration of those who have already blazed the trail.

At the “At-Home” in Wymilwood more than two hundred guests, including graduate women and staff members, engaged in a pleasurable rally, enhanced by sweet music and delicious food. Our more intimate socials included an enthusiastic welcoming party for the freshettes, and a farewell tea, warm with good wishes, for the women of the graduating class.

There is a common outreaching among our members for a goal, which is not taught alone through books, and under the

cloak of social gatherings, the organization attempts to link up and strengthen that desire and give it more tangible expression which will find interpretation later in poise and power.

The course toward recognition of women in our profession has necessitated valiant effort in the past and we do not propose to treat lightly the heritage gained for us.

